SEQUENCE LISTING

<110> Bergeron, Michel G.
Picard, François J.
Ouellette, Marc
Roy, Paul H.

<120> Species-Specific, Genus-Specific and Universal DNA Probes and Amplification Primers to Rapidly Detect and Identify Common Bacterial and Fungal Pathogens and Associated Antibiotic Resistance Genes from

<130> 12287.29

<140> 09/297,539
<141> 1999-05-03

<150> 08/743,637
<151> 1996-11-04 .

<160> 174

<170> PatentIn Ver. 2.1

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gattcgcgca ggcaatagtg tgcgtatgcc gttgacggca gccggtgagc gtgtgttgga 360
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<211> 438
<212> DNA
<213> Staphylococcus saprophyticus

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ttgttgaggg agaagcga 438

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tcaactcaac atttaacaaa taaggttagt caagcaaata ttgatatggg atttgggata 420
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c 421

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<213> Streptococcus gordonii

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ttgattgact ctggggcagt tgatttagtt gtcatcgact ctgttgcagc tcttgtacca 180
cgtgcggaaa tcgatggaga tatcggtgat agc 213

<210> 33
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<213> Streptococcus mutans

<400> 33
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accaaaatta aagttgttaa aaataaagtt gctccaccat ttaaggaagc ttttgtagaa 600
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<212> DNA
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<213> Streptococcus salivarius

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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 58
ccgaaatgct tctcaagata 20

<210> 59
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 59
ctggattatg gctacggagt 20

<210> 60
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 60
agcagtgtga tggtatccag 20

<210> 61
<211> 20
<212> DNA
<213> Pseudomonas aeruginosa

<400> 61
gactcttgat gaagtgctgg 20

<210> 62
<211> 20
<212> DNA
<213> Pseudomonas aeruginosa

<400> 62
ctggtctatt cctcgcactc 20

<210> 63
<211> 20
<212> DNA
<213> Pseudomonas aeruginosa

<400> 63
tatgagaagg caggattcgt 20

<210> 64

<211> 20
<212> DNA
<213> Pseudomonas aeruginosa

<400> 64
gctttctctc gaaggcttgt 20

<210> 65
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 65
gagttgctgt tcaatgatcc 20

<210> 66
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 66
gtgtttgaac catgtacacg 20

<210> 67
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 67
tgtagaggtc tagcccgtgt 20

<210> 68
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 68
acggggataa cgactgtatg 20

<210> 69
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 69
ataaagatga taggccggtg 20

<210> 70
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 70
tgctgtcata ttgtcttgcc 20

<210> 71
<211> 20
<212> DNA
<213> Enterococcus faecalis

<400> 71
attatcttcg gcggttgctc 20

<210> 72
<211> 20
<212> DNA
<213> Enterococcus faecalis

<400> 72
gactatcggc ttcccattcc 20

<210> 73
<211> 20
<212> DNA
<213> Enterococcus faecalis

<400> 73
cgatagaagc agcaggacaa 20

<210> 74
<211> 20
<212> DNA
<213> Enterococcus faecalis

<400> 74
ctgatggatg cggaagatac 20

<210> 75
<211> 21
<212> DNA
<213> Enterococcus gallinarum

<400> 75
gccttatgta tgaacaaatg g 21

<210> 76
<211> 23
<212> DNA
<213> Enterococcus gallinarum

<400> 76
gtgactttwg tgatcccttt tga 23

<210> 77
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 77
tccaatcatt gcacaaaatc 20

<210> 78
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 78
aattccctct atttggtggt 20

<210> 79
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 79
tcccaagcca gtaaagctaa 20

<210> 80
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 80
tggtttttca acttcttcca 20

<210> 81
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 81
tcatagaatg gatggctcaa 20

<210> 82
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 82
agctactatt gcaccatccc 20

<210> 83
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 83
caataagggc ataccaaaaa tc 22

<210> 84
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 84
ccttaacatt tgtggcatta tc 22

<210> 85
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 85
ttgggaagat gaagttttta ga 22

<210> 86
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 86
cctttactcc aataatttgg ct 22

<210> 87
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 87
tttcatctat tcaggatggg 20

<210> 88
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 88
ggagcaacat tctttgtgac 20

<210> 89
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 89
tgtgcctgaa gaaggtattg 20

<210> 90
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 90
cgtgttactt caccaccact 20

<210> 91
<211> 23
<212> DNA
<213> Staphylococcus aureus

<400> 91
tatcttatcg ttgagaaggg att 23

<210> 92
<211> 22
<212> DNA
<213> Staphylococcus aureus

<400> 92
ctacacttgg cttaggatga aa 22

<210> 93
<211> 24
<212> DNA
<213> Escherichia coli

<400> 93
ctatctgatt gttgaagaag gatt 24

<210> 94
<211> 24
<212> DNA
<213> Escherichia coli

<400> 94
gtttactctt ggtttaggat gaaa 24

<210> 95
<211> 22
<212> DNA
<213> Staphylococcus aureus

<400> 95
cttgttgatc acgataattt cc 22

<210> 96
<211> 22
<212> DNA
<213> Staphylococcus aureus

<400> 96
atcttttagc aaacccgtat tc 22

<210> 97
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 97
aacaggtgaa ttattagcac ttgtaag 27

<210> 98
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 98
attgctgtta atatttttttg agttgaa 27

<210> 99
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 99
gtgatcgaaa tccagatcc 19

<210> 100
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 100
atcctcggtt ttctggaag 19

<210> 101
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 101
ctggtcatac atgtgatgg 19

<210> 102
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 102
gatgttaccc gagagcttg 19

<210> 103
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 103
ttaagcgtgc ataataagcc 20

<210> 104
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 104
ttgcgattac ttcgccaact 20

<210> 105
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 105
tttactaagc ttgccccttc 20

<210> 106
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 106
aaaaggcagc aattatgagc 20

<210> 107
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<220>
<221> modified_base
<222> (9)
<223> i

<220>
<221> modified_base
<222> (12)
<223> i

<220>
<221> modified_base
<222> (15)
<223> i

<220>
<221> modified_base
<222> (18)
<223> i

<220>
<221> modified_base
<222> (21)
<223> i

<400> 107
aayatgatna cnggngcngc ncaratgga 29

<210> 108
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<220>
<221> modified_base
<222> (3)
<223> i

<220>
<221> modified_base

<222> (6)
<223> i

<220>
<221> modified_base
<222> (9)
<223> i

<220>
<221> modified_base
<222> (12)
<223> i

<400> 108
ccnacngtnc knccrccytc rcg 23

<210> 109
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<220>
<221> modified_base
<222> (6)
<223> i

<220>
<221> modified_base
<222> (12)
<223> i

<220>
<221> modified_base
<222> (15)
<223> i

<220>
<221> modified_base
<222> (18)
<223> i

<400> 109
carytnathg tngcngtnaa yaaratgga 29

<210> 110
<211> 831
<212> DNA
<213> Escherichia coli

<400> 110
atgaaaaaca caatacatat caacttcgct atttttttaa taattgcaaa tattatctac 60
agcagcgcca gtgcatcaac agatatctct actgttgcat ctccattatt tgaaggaact 120
gaaggttgtt ttttacttta cgatgcatcc acaaacgctg aaattgctca attcaataaa 180
gcaaagtgtg caacgcaaat ggcaccagat tcaactttca agatcgcatt atcacttatg 240
gcatttgatg cggaaataat agatcagaaa accatattca aatgggataa aacccccaaa 300
ggaatggaga tctggaacag caatcataca ccaaagacgt ggatgcaatt ttctgttgtt 360
tgggtttcgc aagaaataac ccaaaaaatt agattaaata aaatcaagaa ttatctcaaa 420
gattttgatt atggaaatca agacttctct ggagataaag aaagaaacaa cggattaaca 480
gaagcatggc tcgaaagtag cttaaaaatt tcaccagaag aacaaattca attcctgcgt 540
aaaattatta atcacaatct cccagttaaa aactcagcca tagaaaacac catagagaac 600
atgtatctac aagatctgga taatagtaca aaactgtatg ggaaaactgg tgcaggattc 660
acagcaaata gaaccttaca aaacggatgg tttgaagggt ttattataag caaatcagga 720
cataaatatg tttttgtgtc cgcacttaca ggaaacttgg ggtcgaattt aacatcaagc 780
ataaaagcca agaaaaatgc gatcaccatt ctaaacacac taaatttata a 831

<210> 111
<211> 846
<212> DNA
<213> Enterococcus faecalis

<400> 111
ttgaaaaagt taatattttt aattgtaatt gctttagttt taagtgcatg taattcaaac 60
agttcacatg ccaaagagtt aaatgattta gaaaaaaaat ataatgctca tattggtgtt 120
tatgctttag atactaaaag tggtaaggaa gtaaaattta attcagataa gagatttgcc 180
tatgcttcaa cttcaaaagc gataaatagt gctattttgt tagaacaagt accttataat 240
aagttaaata aaaaagtaca tattaacaaa gatgatatag ttgcttattc tcctatttta 300
gaaaaatatg taggaaaaga tatcacttta aaagcactta ttgaggcttc aatgacatat 360
agtgataata cagcaaacaa taaaattata aaagaaatcg gtggaatcaa aaaagttaaa 420
caacgtctaa aagaactagg agataaagta acaaatccag ttagatatga gatagaatta 480
aattactatt caccaaagag caaaaaagat acttcaacac ctgctgcttt cggtaagact 540
ttaaataaac ttatcgcaaa tggaaaatta agcaaagaaa acaaaaaatt cttacttgat 600
ttaatgttaa ataataaaag cggagatact ttaattaaag acggtgttcc aaaagactat 660
aaggttgctg ataaaagtgg tcaagcaata acatatgctt ctagaaatga tgttgctttt 720
gtttatccta agggccaatc tgaacctatt gttttagtca tttttacgaa taaagacaat 780
aaaagtgata agccaaatga taagttgata agtgaaaccg ccaagagtgt aatgaaggaa 840
ttttaa 846

<210> 112
<211> 555

<212> DNA
<213> Pseudomonas aeruginosa

<400> 112
atgtccgcga gcacccccc cataactctt cgcctcatga ccgagcgcga cctgccgatg 60
ctccatgact ggctcaaccg gccgcacatc gttgagtggt ggggtggcga cgaagagcga 120
ccgactcttg atgaagtgct ggaacactac ctgcccagag cgatggcgga agagtccgta 180
acaccgtaca tcgcaatgct gggcgaggaa ccgatcggct atgctcagtc gtacgtcgcg 240
ctcggaagcg gtgatggctg gtgggaagat gaaactgatc caggagtgcg aggaatagac 300
cagtctctgg ctgacccgac acagttgaac aaaggcctag gaacaaggct tgtccgcgct 360
ctcgttgaac tactgttctc ggaccccacc gtgacgaaga ttcagaccga cccgactccg 420
aacaaccatc gagccatacg ctgctatgag aaggcaggat tcgtgcggga gaagatcatc 480
accacgcctg acgggccggc ggtttacatg gttcaaacac gacaagcctt cgagagaaag 540
cgcggtgttg cctaa 555

<210> 113
<211> 732
<212> DNA
<213> Staphylococcus aureus

<400> 113
atgaaccaga aaaaccctaa agacacgcaa aattttatta cttctaaaaa gcatgtaaaa 60
gaaatattga atcacacgaa tatcagtaaa caagacaacg taatagaaat cggatcagga 120
aaaggacatt ttaccaaaga gctagtcaaa atgagtcgat cagttactgc tatagaaatt 180
gatggaggct tatgtcaagt gactaaagaa gcggtaaacc cctctgagaa tataaaagtg 240
attcaaacgg atattctaaa attttccttc ccaaaacata taaactataa gatatatggt 300
aatattcctt ataacatcag tacggatatt gtcaaaagaa ttacctttga aagtcaggct 360
aaatatagct atcttatcgt tgagaaggga tttgcgaaaa gattgcaaaa tctgcaacga 420
gctttgggtt tactattaat ggtggagatg gatataaaaa tgctcaaaaa agtaccacca 480
ctatattttc atcctaagcc aagtgtagac tctgtattga ttgttcttga acgacatcaa 540
ccattgattt caaagaagga ctacaaaaag tatcgatctt ttgtttataa gtgggtaaac 600
cgtgaatatc gtgttctttt cactaaaaac caattccgac aggctttgaa gcatgcaaat 660
gtcactaata ttaataaact atcgaaggaa caatttcttt ctattttcaa tagttacaaa 720
ttgtttcact aa 732

<210> 114
<211> 738
<212> DNA
<213> Escherichia coli

<400> 114
atgaacaaaa atataaaata ttctcaaaac tttttaacga gtgaaaaagt actcaaccaa 60
ataataaaac aattgaattt aaaagaaacc gataccgttt acgaaattgg aacaggtaaa 120
gggcatttaa cgacgaaact ggctaaaata agtaaacagg taacgtctat tgaattagac 180
agtcatctat tcaacttatc gtcagaaaaa ttaaaatcga atactcgtgt cactttaatt 240
caccaagata ttctacagtt tcaattccct aacaaacaga ggtataaaat tgttgggaat 300

attccttacc atttaagcac acaaattatt aaaaaagtgg tttttgaaag ccatgcgtct 360
gacatctatc tgattgttga agaaggattc tacaagcgta ccttggatat tcaccgaaca 420
ctagggttgc tcttgcacac tcaagtctcg attcagcaat tgcttaagct gccagcggaa 480
tgctttcatc ctaaaccaag agtaaacagt gtcttaataa aacttacccg ccataccaca 540
gatgttccag ataaatattg gaagctatat acgtactttg tttcaaaatg ggtcaatcga 600
gaatatcgtc aactgtttac taaaaatcag tttcatcaag caatgaaaca cgccaaagta 660
aacaatttaa gtaccgttac ttatgagcaa gtattgtcta tttttaatag ttatctatta 720
tttaacggga ggaaataa 738

<210> 115
<211> 735
<212> DNA
<213> Staphylococcus aureus

<400> 115
atgaacgaga aaaatataaa acacagtcaa aactttatta cttcaaaaca taatatagat 60
aaaataatga caaatataag attaaatgaa catgataata tctttgaaat cggctcagga 120
aaagggcatt ttacccttga attagtacag aggtgtaatt tcgtaactgc cattgaaata 180
gaccataaat tatgcaaaac tacagaaaat aaacttgttg atcacgataa tttccaagtt 240
ttaaacaagg atatattgca gtttaaattt cctaaaaacc aatcctataa aatatttggt 300
aatatacctt ataacataag tacggatata atacgcaaaa ttgtttttga tagtatagct 360
gatgagattt atttaatcgt ggaatacggg tttgctaaaa gattattaaa tacaaaacgc 420
tcattggcat tatttttaat ggcagaagtt gatatttcta tattaagtat ggttccaaga 480
gaatattttc atcctaaacc tagagtgaat agctcactta tcagattaaa tagaaaaaaa 540
tcaagaatat cacacaaaga taaacagaag tataattatt tcgttatgaa atgggttaac 600
aaagaataca agaaaatatt tacaaaaaat caatttaaca attccttaaa acatgcagga 660
attgacgatt taaacaatat tagctttgaa caattcttat ctcttttcaa tagctataaa 720
ttatttaata agtaa 735

<210> 116
<211> 1029
<212> DNA
<213> Enterococcus faecalis

<400> 116
atgaataaaa taaaagtcgc aattatcttc ggcggttgct cggaggaaca tgatgtgtcg 60
gtaaaatccg caatagaaat tgctgcgaac attaatactg aaaaattcga tccgcactac 120
atcggaatta caaaaaacgg cgtatggaag ctatgcaaga agccatgtac ggaatgggaa 180
gccgatagtc tccccgccat attctccccg gataggaaaa cgcatggtct gcttgtcatg 240
aaagaaagag aatacgaaac tcggcgtatt gacgtggctt tcccggtttt gcatggcaaa 300
tgcggggagg atggtgcgat acagggtctg tttgaattgt ctggtatccc ctatgtaggc 360
tgcgatattc aaagctccgc agcttgcatg gacaaatcac tggcctacat tcttacaaaa 420
aatgcgggca tcgccgtccc cgaatttcaa atgattgaaa aaggtgacaa accggaggcg 480
aggacgctta cctaccctgt ctttgtgaag ccggcacggt caggttcgtc ctttggcgta 540
accaaagtaa acagtacgga agaactaaac gctgcgatag aagcagcagg acaatatgat 600
ggaaaaatct taattgagca agcgatttcg ggctgtgagg tcggctgcgc ggtcatggga 660

aacgaggatg atttgattgt cggcgaagtg gatcaaatcc ggttgagcca cggtatcttc 720
cgcatccatc aggaaaacga gccggaaaaa ggctcagaga atgcgatgat tatcgttcca 780
gcagacattc cggtcgagga acgaaatcgg gtgcaagaaa cggcaaagaa agtatatcgg 840
gtgcttggat gcagagggct tgctcgtgtt gatcttttt tgcaggagga tggcggcatc 900
gttctaaacg aggtcaatac cctgcccggt tttacatcgt acagccgcta tccacgcatg 960
gcggctgccg caggaatcac gcttcccgca ctaattgaca gcctgattac attggcgata 1020
gagaggtga 1029

<210> 117
<211> 1031
<212> DNA
<213> Enterococcus gallinarum

<400> 117
atgaaaaaaa ttgccgtttt atttggaggg aattctccag aatactcagt gtcactaacc 60
tcagcagcaa gtgtgatcca agctattgac ccgctgaaat atgaagtaat gaccattggc 120
atcgcaccaa caatggattg gtattggtat caaggaaacc tcgcgaatgt tcgcaatgat 180
acttggctag aagatcacaa aaactgtcac cagctgactt tttctagcca aggatttata 240
ttaggagaaa aacgaatcgt ccctgatgtc ctctttccag tcttgcatgg gaagtatggc 300
gaggatggct gtatccaagg actgcttgaa ctaatgaacc tgccttatgt tggttgccat 360
gtcgctgcct ccgcattatg tatgaacaaa tggctcttgc atcaacttgc tgataccatg 420
ggaatcgcta gtgctcccac tttgctttta tcccgctatg aaaacgatcc tgccacaatc 480
gatcgtttta ttcaagacca tggattcccg atctttatca agccgaatga agccggttct 540
tcaaaaggga tcacaaaagt aactgacaaa acagcgctcc aatctgcatt aacgactgct 600
tttgcttacg gttctactgt gttgatccaa aaggcgatag cgggtattga aattggctgc 660
ggcatcttag gaaatgagca attgacgatt ggtgcttgtg atgcgatttc tcttgtcgac 720
ggtttttttg attttgaaga gaaataccaa ttaatcagcg ccacgatcac tgtcccagca 780
ccattgcctc tcgcgcttga atcacagatc aaggagcagg cacagctgct ttatcgaaac 840
ttgggattga cgggtctggc tcgaatcgat tttttcgtca ccaatcaagg agcgatttat 900
ttaaacgaaa tcaacaccat gccgggattt actgggcact cccgctaccc agctatgatg 960
gcggaagtcg ggttatccta cgaaatatta gtagagcaat tgattgcact ggcagaggag 1020
gacaaacgat g 1031

<210> 118
<211> 809
<212> DNA
<213> Abiotrophia adiacens

<400> 118
tggtgctatc ttagtagtat ctgcagctga tggtccaatg cctcaaacac gtgaacacat 60
cttattatca cgtcaagtag gtgttcctta catcgttgta ttcttaaaca aagttgacat 120
ggttgacgat gaagaattat tagaattagt agaaatggaa gttcgtgact tattatcaga 180
atacgatttc ccaggcgatg acactccagt tgttgcaggt tctgctttac gcgctttaga 240
aggcgacgct tcatacraag aaaaaatctt agaattaatg gctgctgttg acgaatacat 300
tccaactcca gaacgygacg ttgacaaacc attcatgatg ccagttgaag acgtgttctc 360
aatcacaggt cgtggtactg ttgctacagg tcgtgttgaa cgtggacaag ttcgtgttgg 420

tgacgaagtt gaaatcgttg gtatttcaga agaaacttca aaaacaactg taactggtgt 480
tgaaatgttc cgtaaattgt tagactacgc tgaagcaggg gataacattg gtacattatt 540
acgtggtgtt acacgtgaca acatcgaacg tggacaagtt cttgctaaac caggaacaat 600
cactccacat actaaattca aagctgaagt ttacgtatta actaaagaag aaggtggacg 660
tcatactcca ttcttctcta actaccgtcc tcaattctac ttccgtacaa cagacatcac 720
tggtgtttgt gtgttaccag aaggcgttga aatggtaatg cctggtgata acgtaactat 780
ggaagttgaa ttaattcacc cagtagcga 809

<210> 119
<211> 817
<212> DNA
<213> Abiotrophia defectiva

<400> 119
cggcgcgatc ctcgttgtat ctgctgctga cggcccaatg ccacaaactc gtgaacacat 60
cctcttgtct cgtcaagttg gtgttcctta catcgtagta ttcttgaaca aagttgacat 120
ggttgacgac gaagaattgc tcgaattagt tgaaatggaa gttcgtgacc tcttgtctga 180
atacgacttc ccaggcgacg acactccagt tatcgctggt tcagctttga aagctttaga 240
aggcgacgct aactacgaag ctaaagtttt agaattgatg gaacaagttg atgcttacat 300
tccagaacca gaacgtgaca ctgacaagcc attcatgatg ccagtcgaag acgtattctc 360
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tcacactcca ttcttctcta actaccgtcc acaattctac ttccgtacaa ctgacgtaac 720
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<210> 120
<211> 754
<212> DNA
<213> Candida albicans

<400> 120
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gattgacaga agaactggta agraattgga agaaaatcca aaattcgtca aatccggtga 720
tgctgctatc gtcaagatgg tcccaaccaa acca 754

<210> 121
<211> 753
<212> DNA
<213> Candida glabrata

<400> 121
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ccagttttgg actgtcacac cgcccacatt gcttgtaagt tcgaagaatt gttggaaaag 660
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gctgctttgg ttaagttcgt tccatccaag cca 753

<210> 122
<211> 752
<212> DNA
<213> Candida kruisii

<400> 122
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<210> 123
<211> 754

<212> DNA
<213> Candida parapsilosis

<400> 123
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tgctgcyatc gtcaagatgg tcccaaccaa gcca 754

<210> 124
<211> 753
<212> DNA
<213> Candida tropicalis

<400> 124
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aagaaggttg gttacaaccc taaggctgtt ccattcgttc caatctcwgg ttggaatggt 120
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<210> 125
<211> 814
<212> DNA
<213> Corynebacterium accolens

<400> 125
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<210> 126
<211> 814
<212> DNA
<213> Corynebacterium diphtheriae

<400> 126
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<210> 127
<211> 814
<212> DNA
<213> Corynebacterium genitalium

<400> 127
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tgttgtgaag ctgccggagg gcaccgagat ggttatgccg ggcgacaacg ttgacatgtc 780
cgtcaccctg atccagccgg ttgctatgga cgag 814

<210> 128
<211> 814
<212> DNA
<213> Corynebacterium jeikeium

<400> 128
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<210> 129
<211> 748
<212> DNA
<213> Corynebacterium pseudodiphtheriticum

<400> 129
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tgttgttacc ctgcctgagg gcaccgag 748

<210> 130
<211> 813
<212> DNA
<213> Corynebacterium striatum

<400> 130
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gtcgagctga tccagccggt cgctatggac gag 813

<210> 131
<211> 817
<212> DNA
<213> Enterococcus avium

<400> 131
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<210> 132
<211> 817
<212> DNA
<213> Enterococcus faecalis

<400> 132
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<210> 133
<211> 774
<212> DNA
<213> Enterococcus faecium

<400> 133
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<210> 134
<211> 809
<212> DNA
<213> Enterococcus gallinarum

<400> 134
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cgacgttgaa ttgatrcacc caatcgctc 809

<210> 135
<211> 823
<212> DNA
<213> Gardnerella vaginalis

<400> 135
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tggccgtcac tcgccattct tctccaacta ccgtccacag ttctacttcc gtaccaccga 720
tgttactggc gttatcacct tgccagacgg catcgaaatg gttcagccag gcgatcacgc 780
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<210> 136
<211> 817
<212> DNA
<213> Listeria innocua

<400> 136
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tactccacac actaacttca aagctgaaac ttatgtttta actaaagaag aaggtggacg 660
tcacactcca ttcttcaaca actaccgccc acaattctat ttccgtacta ctgacgtaac 720
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<210> 137
<211> 818
<212> DNA
<213> Listeria ivanovii

<400> 137
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ttactccaca tactaacttc aaagctgaaa cttatgtttt aactaaagaa gaaggtggac 660
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ctggtattgt tacacttcca gaaggtactg aaatggtaat gcctggtgat aacattgagc 780
ttgcagttga actaattgca ccaatcgcta tcgaagac 818

<210> 138
<211> 817
<212> DNA
<213> Listeria monocytogenes

<400> 138
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tgcagttgaa ctaattgcac caatcgctat cgaagac 817

<210> 139
<211> 817
<212> DNA
<213> Listeria seeligeri

<400> 139
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ggttgacgat gaagaattac ttgaattagt tgaaatggaa attcgtgatc tattaactga 180
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acgtggtgtt gctcgtgaag atatccaacg tggtcaagta ttagctaaac caggttcgat 600
tactccacat actaacttca aagctgaaac ttatgtttta actaaagaag aaggtggacg 660
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<210> 140
<211> 814
<212> DNA
<213> Staphylococcus aureus

<400> 140
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ggttgacgat gaagaattat tagaattagt agaaatggaa gttcgtgact tattaagcga 180
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accacatact gaattcaaag cagaagtata cgtattatca aaagacgaag gtggacgtca 660
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<210> 141
<211> 814
<212> DNA
<213> Staphylococcus epidermidis

<400> 141
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<210> 142
<211> 817
<212> DNA
<213> Staphylococcus saprophyticus

<400> 142
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tcttttatca cgtracgttg gtgytccagc attagttgta ttcttaaaca aagttgacat 120
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<210> 143
<211> 817
<212> DNA
<213> Staphylococcus simulans

<400> 143
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<210> 144
<211> 817
<212> DNA
<213> Streptococcus agalactiae

<400> 144
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cgaagttgaa ttgattcacc caatcgccgt agaacaa 817

<210> 145
<211> 817

<212> DNA
<213> Streptococcus pneumoniae

<400> 145
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cgacgttgag ttgattcacc caatcgccgt agaacaa 817

<210> 146
<211> 817
<212> DNA
<213> Streptococcus salivarius

<400> 146
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<210> 147
<211> 897
<212> DNA
<213> Agrobacterium tumefaciens

<400> 147

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<210> 148
<211> 885
<212> DNA
<213> Bacillus subtilis

<400> 148
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<210> 149
<211> 882
<212> DNA
<213> Bacteroides fragilis

<400> 149
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<210> 150
<211> 888
<212> DNA
<213> Borrelia burgdorferi

<400> 150
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<210> 151
<211> 894
<212> DNA
<213> Brevibacterium linens

<400> 151
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<210> 152
<211> 888
<212> DNA
<213> Burkholderia cepacia

<400> 152
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<210> 153
<211> 891
<212> DNA
<213> Chlamydia trachomatis

<400> 153
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<210> 154
<211> 891
<212> DNA
<213> Escherichia coli

<400> 154
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<210> 155
<211> 891
<212> DNA
<213> Fibrobacter succinogenes

<400> 155
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<210> 156
<211> 894
<212> DNA
<213> Flavobacterium ferrugineum

<400> 156
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<210> 157
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<212> DNA
<213> Haemophilus influenzae

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<210> 158
<211> 906
<212> DNA
<213> Helicobacter pylori

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<210> 159
<211> 891
<212> DNA
<213> Micrococcus luteus

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<210> 160
<211> 891
<212> DNA
<213> Mycobacterium tuberculosis

<400> 160
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<210> 161
<211> 891
<212> DNA
<213> Mycoplasma genitalium

<400> 161
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<210> 162
<211> 891
<212> DNA
<213> Neisseria gonorrhoeae

<400> 162
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<210> 163
<211> 891
<212> DNA
<213> Rickettsia prowazekii

<400> 163
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<210> 164
<211> 891
<212> DNA
<213> Salmonella typhimurium

<400> 164
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<210> 165
<211> 881
<212> DNA
<213> Shewanella putida

<400> 165
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ttagcagcgg cgctggattc ttacattcca gaaccacaac gtgacatcga taagccgttc 360
ctactgccaa tcgaagacgt attctcaatt tcaggccgtg gtacagtagt aacaggtcgt 420
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ggtgagaact gtggtatttt gttacgtggt actaagcgtg atgacgtaga acgtggtcaa 600
gtattagcga agccaggttc aatcaaccca cacactactt ttgaatcaga agtttacgta 660
ctgtcaaaag aagaaggtgg tcgtcacacg ccattcttca aaggctaccg tccacagttc 720
tacttccgta caactgacgt aaccggtact atcgaactgc cagaaggcgt agagatggta 780
atgccaggcg ataacatcaa gatggtagtg acactgattt gcccaatcgc gatggacgaa 840
ggtttacgct tcgcaatccg tgaaggcggt cgtacagtgg t 881

<210> 166
<211> 897
<212> DNA
<213> Stigmatella aurantiaca

<400> 166
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acgggccgag tggagcgcgg caagatcaag gtgggcgagg aagtggagat cgtggggatc 480
cgtccgacgc agaagacggt catcacgggg gtggagatgt tccgcaagct gctggacgag 540
ggcatggcgg gagacaacat cggagcgctg ctgcgaggcc tgaagcgcga ggacctggag 600
cgtgggcagg tgctggcgaa ctgggggagc atcaacccgc acacgaagtt caaggcgcag 660
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ccgcagttct acttccggac gacggacgtg accggaacgg tgaagctgcc ggacaacgtg 780
gagatggtga tgccgggaga caacatcgcc atcgaggtgg agctcattac tccggtcgcc 840
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<210> 167
<211> 894
<212> DNA
<213> Streptococcus pyogenes

<400> 167
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cttatcgtgt tcatgaacaa agttgacctt gttgatgacg aagagttgct tgaattagtt 180
gagatggaaa ttcgtgacct tctttcagaa tacgatttcc caggtgatga ccttccagtt 240
atccaaggtt cagctcttaa agctcttgaa ggcgacacta aatttgaaga catcatcatg 300
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gaaactaaaa aagctgttgt tactggtgtt gaaatgttcc gtaaacaact tgacgaaggt 540
cttgcaggag acaacgtagg tatccttctt cgtggtgttc aacgtgacga aatcgaacgt 600
ggtcaagtta ttgctaaacc aagttcaatc aacccacaca ctaaattcaa aggtgaagta 660
tatatccttt ctaaagacga aggtggacgt cacactccat tcttcaacaa ctaccgtcca 720
caattctact tccgtacaac tgacgtaaca ggttcaatcg aacttccagc aggtacagaa 780
atggttatgc ctggtgataa cgtgacaatc aacgttgagt tgatccaccc aatcgccgta 840
gaacaaggta ctactttctc aatccgtgaa ggtggacgta ctgttggttc aggt 894

<210> 168
<211> 897

<212> DNA
<213> Thiobacillus cuprinus

<400> 168
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gagatggaag tgcgcgagct gctgtccaag tacgacttcc ccggtgacga cacccccatc 240
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accgggcgtg tggagcgcgg catcatcaag gtcggcgagg aaatcgagat tgtcggcctc 480
aagcccaccc tcaagaccac ctgcaccggc gtggaaatgt tcaggaagct gctcgaccag 540
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ccgcagttct acttccgcac caccgacgtc accggcgcca tcgaactgcc caaggacaag 780
gaaatggtca tgcccggcga taatgtgagc atcaccgtca agctcatcgc ccccatcgcc 840
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<210> 169
<211> 894
<212> DNA
<213> Treponema pallidum

<400> 169
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cctttcttgc tctctatcga ggatgtgtac actatttctg ggcgtggtac cgttgtcacg 420
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cccactaaga aaacagtggt tactggcatt gagatgttta ataagttgct tgatcaggga 540
attgcaggtg ataacgtggg gctgcttttg cgcggggtgg ataaaaaaga ggttgagcgc 600
ggtcaggtgc tttctaagcc cggttctatt aagccacaca ccaagtttga ggcgcagatc 660
tacgtgctct ctaaggaaga gggtggccgt cacagtcctt tttttcaagg ttatcgtccg 720
cagttttatt ttagaactac tgacattacc ggtacgattt ctcttcctga aggggtagac 780
atggtgaagc cgggggataa caccaagatt ataggtgagc tcatccaccc gatagctatg 840
gacaagggtc tgaagcttgc gattcgtgaa gggggggcgca ctattgcttc tggt 894

<210> 170
<211> 891
<212> DNA
<213> Ureaplasma urealyticum

<400> 170
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atcgttgttt tcttaaacaa atgtgatttc atgacagatc cagatatgca agatcttgtt 180
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attcgtggtt caggtcttaa ggctttagaa ggagatccag tttgagaagc aaaaattgat 300
gaattaatgg acgcagttga ttcatgaatt ccattaccag aacgtagtac tgacaaacca 360
ttcttattag caattgaaga tgtattcaca atttcaggac gtggtacagt agtaactgga 420
cgtgttgaac gtggtgtatt aaaagttaat gatgaggttg aaattgttgg tctaaaagac 480
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gctggtgata atgctggtat tttattacgt ggtattaaaa aagaagatgt tgaacgtggt 600
caagtacttg taaaaccagg atcaattaaa cctcaccgta cttttactgc taaagtttat 660
attcttaaaa aagaagaagg tggacgtcat acacctattg tttcaggata ccgtccacaa 720
ttctatttta gaacaacaga tgtaacaggt gctatttcat tacctgctgg tgttgatttg 780
gttatgccag gtgatgacgt tgaaatgact gtagaattaa ttgctccagt tgcgattgaa 840
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<210> 171
<211> 909
<212> DNA
<213> Wolinella succinogenes

<400> 171
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atcgtggttt tcttgaacaa agaagatatg gttgatgacg ctgagcttct tgagcttgtt 180
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tggggcgaga aagtattgaa gcttatggct gaggttgacc gatatattcc tacgcctgag 360
cgagatgtgg ataagccttt ccttatgcct gttgaagacg tattctccat cgcgggtcgt 420
ggaaccgttg tgacaggaag aattgaaaga ggcgtggtta aagtcggtga cgaagtagaa 480
atcgttggta tccgaaacac acaaaaaaca accgtaactg gcgttgagat gttccgaaaa 540
gagctcgaca agggtgaggc gggtgacaac gttggtgttc ttttgagagg caccaagaaa 600
gaagatgttg agagaggtat ggttctttgt aaaataggtt ctatcactcc tcacactaac 660
tttgaaggtg aagtttacgt tctttccaaa gaggaaggcg gacgacacac tccattcttc 720
aatggatacc gacctcagtt ctatgttaga actacagacg ttaccggttc tatctctctt 780
cctgagggcg tagagatggt tatgcctggt gacaacgtta agatcaatgt tgagcttatc 840
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<210> 172
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<220>
<221> modified_base
<222> (6)
<223> i

<220>
<221> modified_base
<222> (12)
<223> i

<220>
<221> modified_base
<222> (18)
<223> i

<400> 172
tartcngtra angcytcnac rcacat 26

<210> 173
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 173
tctttagcag aacaggatga a 21

<210> 174
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 174
gaataattcc atatcctccg 20